

REMARKS

The above amendment is made in response to the Final Office Action mailed October 22, 2003 and the Advisory Action mailed January 30, 2004. Claims 1, 17, 23, and 40 have been amended. Claim 31 has been cancelled without prejudice. Claims 1, 3-30, and 32-42 are pending in the present application and stand rejected. The Examiner's reconsideration of the claim rejections is respectfully requested in view of the above amendment and the following remarks.

Rejection under § 112, second paragraph

Claims 17-21 stand rejected under 35 U.S.C. § 112, second paragraph, for lack of antecedent basis for "profile matrix." Claim 17 has been amended to overcome the rejection. Withdrawal of the rejection of claims 17-21 under 35 U.S.C. § 112, second paragraph, is respectfully requested.

Rejection under § 102(b)

Claims 1, 4-5, 9-12, 16-17, 22-23, 25-26, 30-33, and 37-39 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Agrawal *et al.* (U.S. Pat. No. 5,768,500) (hereinafter "Agrawal").

Agrawal does not expressly disclose the steps of "selecting a plurality of events for profiling" and "updating the profile counts for only the selected events," as essentially claimed in claim 1. The event detector 102 and the down counter 104 of Agrawal only provide a down-count for a single event, and not "a plurality of events." As such, Agrawal is not capable, nor does it have any need, of "selecting a plurality of events for profiling"

or “updating the profile counts *for only the selected events*.” Similarly, Agrawal does not expressly disclose “a controller adapted to *select the events* for profiling and to *update the profile counts of the selected events* stored in said memory array,” as essentially claimed in claim 23.

Further, Agrawal does not expressly disclose “a scaling circuit adapted to *scale the profile counts* to prevent profile information overflow,” as essentially claimed in claim 23. The Final Office Action cites col. 16, lines 15-27 of Agrawal, which discloses the “generation of an interrupt at a prespecified value of counter is effective to scale the number of counts to prevent an overflow.” This argument is flawed for at least two reasons. First, the interrupt described in Agrawal is “generated every time the read wait time counter reaches the compare value.” (Agrawal, col. 16, lines 18-19). This interrupt bears no relation with the down-counter 104, which the Final Office Action argues stores profile counts. The read wait time counter is for determining the total time a program spends waiting on network reads. (Agrawal, col. 16, lines 10-12). Second, even assuming the interrupt is related to profile counts, the interrupt, can only be, at most, a *notice* of an overflow. The interrupt, *per se*, cannot “*scale* the number of counts to prevent an overflow.”

Dependent claims 4-5, 9-12, 16-17, 22, 25-26, 39-33 and 37-39 are believed to be allowable for at least the reasons given for claims and 1 and 23. Withdrawal of the claim rejections under 35 U.S.C. §102(b) is respectfully requested.

Rejection under § 103(a)

Claims 3, 6-8, 13, 15, 24, 27-29 and 34-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Agrawal in view of Record (U.S. Patent No. 5,355,484).

Claims 18-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Agrawal in view of Bala (U.S. Patent No. 6,351,844). The rejections to the recited claims are believed to be legally deficient for at least the reasons provided above for claims 1 and 23. Thus, withdrawal of the rejections to claims 3, 6-8, 13, 15, 18-21, 24, 27-29 and 34-36 under 35 U.S.C. §103(a) is respectfully requested.

Claims 40-42 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ammons *et al.*, “Exploiting Hardware Performance Counters with Flow and Context Sensitive Profiling” (hereinafter “Ammons”) and Official Notice. The rejection is respectfully traversed.

The Final Office Action admits that “Ammons did not explicitly teach storing, in a memory array, profile counts...for events associated with the execution of the computer program, the memory array being separate and distinct from the memory hierarchy so as to not perturb normal operations of the memory hierarchy.” The Final Office Action took Official Notice of the above limitations. Applicants respectfully assert that the application of Official Notice requires improper hindsight reasoning. As such, Ammons does not teach or suggest “storing, in a *single* memory array, a plurality of event-specific profile counts for a plurality of events,” as essentially claimed in claim 40. Further, Ammons does not teach or suggest “selecting a plurality of events for profiling,” “updating the profile counts for only the selected events,” “storing, in a global counter, a global profile count comprising a total of the plurality of event-specific profile counts,” and “wherein

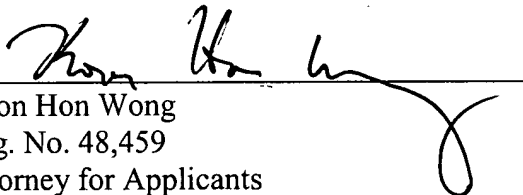
each of the plurality of event-specific profile counts is uniquely assigned to count only one of the plurality of events," as amended in claim 40.

Accordingly, claim 40 is believed to be patentably distinguishable in view of Ammons and Official Notice. Dependent claims 41-42 are believed to be allowable for at least the reasons given for claim 40. Withdrawal of the rejection of claims 40-42 under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing remarks, it is respectfully submitted that all the claims now pending in the application are in condition for allowance. Early and favorable reconsideration is respectfully requested.

Respectfully submitted,

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